Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Concentration Practice: Molarity and PPM**

1. Write the formula for molarity: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What does molarity tell you? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Write the formula for parts per million: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. What does parts per million tell you? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. When should parts per million be used instead of molarity?

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1. What the units of molarity? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\*\*\* For each problem that requires any kind of math, you must show your work! Be sure that you also label your answer with the correct units\*\*\*

1. What is the molarity of a solution that has 4 moles of solute and 2 liters of solution?
2. What is the molarity of a solution that has 5 moles of solute and 3.2 liters of solution?
3. How many moles of solute are needed in order to make 5 liters of a 2.5 M solution?
4. How many moles of solute are needed to make 1.75 liters

of a 5 M solution?

1. What volume of solution will you have if you are making a

4 M solution with 6 moles of solute?

1. What volume of solution will you have if you are a making

a 3.5 M solution with 4 moles of solute?

1. What is the concentration of O2 in parts per million in a

solution that contains 0.008 grams of O2 dissolved in 1000

grams of water?

1. If 0.025 grams of Pb(NO3)2 is dissolved in 100 grams of

water, what is the concentration of the resulting solution in

parts per million?

Extra Credit:

1. How many grams of solute are in a 1400 gram solution if the solute concentration is 5.8 ppm? Show all work!